Observations of carbon sequestration in a Danish beech forest over the last 20 years have shown a steady increase in NEE. Earlier studies (Pilegaard et al. 2011) have shown, that about half of the increase can be attributed to an increase in the growing season length. The growing season has been determined as the carbon uptake period (CUP); i.e. the period with net uptake, determined from flux data. Additionally, we have determined the period with leaves (LP) from the attenuation of light below the canopy. In this analysis we add information from a phenology camera with data from the last 6 years using the R package Phenopix (Filippa et al. 2016). The new data is compared with CUP and LP to give more detailed information on the phenology. The information is used to examine the evolution of net ecosystem exchange (NEE) over the 20 year period.